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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/718,168

11/20/2003

Peter F. Symosek

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EXAMINER

GEBRESILASSIE, KIBROM K

ART UNIT

PAPER NUMBER

2128

MAIL DATE

DELIVERY MODE

02/22/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/718,168	Applicant(s) SYMOSEK ET AL.	
	Examiner KIBROM K. GEBRESILASSIE	Art Unit 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 5,6 and 10-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-9 and 23-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

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1. In view of the Pre-Appeal filed on 07/19/2007, PROSECUTION IS HEREBY REOPENED.

2. Claims 1-32 are presented for examination.

- a. Previously, claims 1-4 have been canceled.
- b. Previously, claims 5, 6, 10-22, have been withdrawn.

Response to Arguments

3. Applicant's arguments filed 10/12/2007 have been fully considered but they are not persuasive.

4. Applicant's argument relating to 112 rejection is persuasive and the rejection is withdrawn.

5. Applicant's argument relating to 101 is not persuasive. As indicated in the pervious office action mailed on 07/13/2007, claim 7 seems **system software per se**. Only if at least one of the claimed elements of the system is a physical part of a device can the system as claimed constitute part of a device or combination of devices to be a **machine** within the meaning of 101. In this case, none of the recited elements of the system are **a physical or hardware components**, and therefore the claims are **system software per se** and are non-statutory. Note, for example, that the "numerical computing tool" (claim 7) may comprise *software per se*, namely, a Matlab software module (claim 26). Note, that the IEEE definition provided by Applicants does not require that the device be a mechanical or electrical device; thus, that

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definition is at variance with meaning of "apparatus" as defined by patent law. No hardware is recited in the claims.

6. Applicant's arguments with respect to the prior art rejections have been considered but are moot in view of the new ground(s) of rejection.

Applicants Admission

7. **Applicants specification states as follows:**

Page 8 lines 10-13:

"Features of simulation 25 may include a first principle phenomenological model (spectral absorpti0n/radiation) and Government off the shelf (GOTS) proven atmospheric models may be used relative to MODTRAN 23."

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Page 14 lines 6-11:

"The assumptions and requirements needed to complete the simulation software may include a local, executable MODTRAN (version 3.7) which can be invoked by the simulation software, an executable MATLAB® (version 5.2) and its signal processing toolbox which can be invoked by the simulation software. MATLAB® (Matlab) may be used as a numerical computing tool."

Claim Rejections - 35 USC § 112

8. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 recites "may be". The limitation renders the claim vague and indefinite, because it is unclear as to how the examiner should interpret the claim limitation as it relates to "may be".

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claims 7-9, and 23-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. For example, independent “system” claim 7 is drawn to **software per se**. None of the claimed elements of the system comprise a physical device within the meaning “machine” as defined by of patent law. None of the recited elements of the system comprise **physical or hardware components**, and therefore the “system” claims are **directed to software per se and are non-statutory**.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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12. Claims 7-9, and 23-~~32~~ are rejected under 35 U.S.C. 103(a) as being unpatentable over D. M. Jodeit, D. L. Jones, R. McMahon,..."Use of Environment Simulation to Support Passive Chemical Sensor Development", (herein referred as **Jodeit et al**), March 2000, in view of Applicants Admission (herein referred as **AOA**).

Claims 1-4. (Canceled)

Claims 5-6. (Withdrawn)

Claim 7:

Jodeit discloses a simulator system comprising:

a chemical agent detection environment simulation device (**See: JSLSCAD simulator**);

a user interface connected to the chemical agent detection environment simulation device (**See: Fig. 2 and corresponding texts**);

a background measurement environment interferogram source connected to the chemical agent detection environment simulation device (**See: Abstract**);

Jodeit et al fails expressly to disclose a numerical computing tool and an atmospheric transmittance and radiance model.

AOA discloses a numerical computing tool, an atmospheric transmittance and radiance model (**See: Specification page 8 lines 10-13**).

It would have been obvious to one of ordinary skill in the art to connect the prior art numerical computing tools including Matlab and MODTRAN software to the teaching of Jodeit et al to compute the simulation model, atmospheric transmission and radiance.

Claim 8:

Jodeit et al discloses the system of claim 7, further comprising an ancillary information source connected to the chemical agent detection environment simulation device (**See: 2.1 JSLSCAD simulator**).

Claim 9:

Jodeit et al discloses the system of claim 8, wherein:
files may be input to the atmospheric transmittance and radiance model from the chemical agent detection simulation device environment (**See: 2.1 JSLSCAD simulator**); and
atmospheric model information may be input to the chemical agent detection environment simulation device from the atmospheric transmittance and radiance model (**See: 2.1 JSLSCAD simulator**).

Claims 10-22:

(Withdrawn)

Claim 23:

Jodeit et al discloses the system of claim 7, wherein the chemical agent detection environment simulation device includes simulated sensor output (**See: “2.1 JSLSCAD Simulator”, “2.4 ModSAF”**).

Claim 24:

Jodeit et al discloses the system of claim 23, wherein the numerical computing tool is configured to test the sensor output with one or more algorithms (**See: “2.1 JSLSCAD Simulator”**).

Claim 25:

AOA discloses the system of claim 7, further comprising a cloud radiance and transmittance module (**See: specification page 8 lines 10-13**).

Claim 26.

AOA discloses the system of claim 7, numerical computing tool is a Matlab® module (**See: specification page 14 lines 6-11**).

Claim 27:

AOA discloses the system of claim 7, wherein the atmospheric transmittance and radiance module is a MODTRAN module (**See: specification page 8 lines 10-13**).

Claim 28:

Jodeit et al discloses the system of claim 7, wherein the chemical agent detection environment simulation device includes: an input stage; a preparation stage; a calibration stage; and a simulation stage (**See: "2.1 JSLSCAD Simulator"**); and wherein the simulation stage comprises: a background spectrum; an atmospheric model; a cloud model; and a simulated spectrum builder (**See: "2.1 JSLSCAD Simulator"**).

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Claim 29:

Jodeit et al discloses the system of claim 28 wherein the calibration stage comprises:
computing an ambient blackbody spectrum; computing a theoretical ambient blackbody spectrum; and computing a calibrated background spectrum (**See: Specification page 8 lines 10-13**).

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Claim 30:

AOA discloses the system of claim 29, wherein the calibration stage is configured to compute a liquid nitrogen (LN2) reference spectrum (**See: Specification page 8 lines 10-13**).

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Claim 31:

Jodeit et al discloses the system of claim 7, further comprising a sensor response removal module (**See: 2.1 JSLSCAD simulator**).

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Claim 32:

Jodeit et al discloses the system of claim 31, further comprising a field data source and a sensor response source each connected to the sensor response removal module (**See: 2.1 JSLSCAD simulator**).

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Conclusion

13. The prior art made of record on PTO-892 and not relied upon is considered pertinent to applicant's disclosure.

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Examiner Remarks

14. Examiner's Note: **Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant.** Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. **It is respectfully requested from the applicant in preparing responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as**

well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Examiner Request

15. In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

MPEP states:

"...with respect to newly added or amended claims, applicant should show support in the original disclosure for the new or amended claims. See MPEP § 714.02 and § 2163.06."

Communications

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kibrom K. Gebresilassie whose telephone number is 571-272-8571. The examiner can normally be reached on 8:00 am - 4:30 pm Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini S. Shah can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you

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would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. K. G./

Examiner, Art Unit 2128

/Hugh Jones/

Primary Examiner, Art Unit 2128